

PATENT ABSTRACTS OF JAPAN

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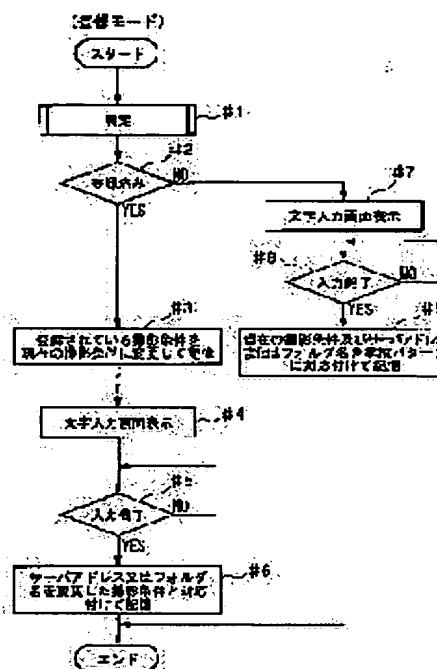
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(54) ELECTRONIC CAMERA

(57)Abstract:

PROBLEM TO BE SOLVED: To facilitate operations of an electronic camera, when a single electronic camera is used in common by a plurality of users.

SOLUTION: The operation flowchart of the electronic camera includes a step #1 of discriminating whether a detected pattern P1 agrees with a registered pattern Pt when a photographing condition is set manually and a registration mode is selected, a step #3 of revising the photographing condition into a current photographing condition when the agreement is confirmed (YES in a step #2), a step #4 of displaying a character entry menu 30, a step #6 of registering the photographing condition and a server address or the like, in cross-reference with the revised photographing condition, when the server address or the like is entered on the menu 30 (a step #5), a step #7 of displaying the menu 30 when the detected pattern P1 does not agree with any of the registration patterns Pt (NO in the step #2), and a step #9 of registering the set photographing conditions and the server address or the like together with palm-print pattern, when the server address or the like is entered on the menu 30 (step #8).



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CLAIMS

[Claim(s)]

[Claim 1] The mode setting means which carries out a change-over setup of the normal mode containing photography mode, and the register mode which registers the operating condition of the electronic camera for every user, In 1st input means to input the operating condition of an electronic camera, 2nd input means to input the user proper information for specifying a user, and said register mode In a storage means to match the operating condition inputted by said 1st input means with said user proper information that it was inputted, and to memorize it if user proper information is inputted by said 2nd input means, and said normal mode If user proper information is inputted by said 2nd input means, when said operating condition is remembered to be a judgment means to judge whether the operating condition corresponding to the user proper information is memorized by said storage means by said storage means, The electronic camera characterized by having a setting means to set an electronic camera as the operating condition.

[Claim 2] For said setting means, said operating condition is an electronic camera according to claim 1 characterized by setting an electronic camera as the photography conditions corresponding to the user proper information, when it is the photography conditions at the time of photoing a photographic subject with an electronic camera and user proper information is inputted by said 2nd input means in said photography mode.

[Claim 3] Said operating condition is an electronic camera according to claim 2 characterized by including the conditions about the archive destination of the object which records a photography image further.

[Claim 4] In an electronic camera according to claim 1 to 3, it has further the display means which indicates the photography image by playback. Said mode setting means While a change-over setup to the playback mode which displays a photography image on said display means is attained, said operating condition If it is the conditions about the playback display of the photography image to said display means and user proper information is inputted by said 2nd input means in said playback mode The electronic camera characterized by being constituted so that a photography image may be displayed on said display means according to the conditions about the playback display corresponding to the user proper information.

[Claim 5] Said user proper information is an electronic camera according to claim 1 to

4 characterized by being the biological information of at least 1 of a user's palm print, a retina, and a voiceprint.

[Claim 6] Said 2nd input means is an electronic camera according to claim 5 characterized by being the detection sensor which detects the user's biological information when a user will be in a predetermined busy condition to an electronic camera.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the electronic camera equipped with the function to register the operating condition of cameras, such as photography conditions and record conditions, for every part-owners.

[0002]

[Description of the Prior Art] Only when a camera is used for it, the user's biological information is read, comparison collating of the biological information beforehand remembered to be the read biological information is carried out and a collating result is in agreement, the camera which makes a camera usable is indicated [while detecting biological information, such as a retina of the user of a camera, and a fingerprint or a voiceprint, in JP,2000-147623,A and memorizing them to it beforehand,].

[0003]

[Problem(s) to be Solved by the Invention] By the way, it is troublesomely troublesome that the operating condition suitable for how each user employs himself whenever a user changes, in order that part-owners may set up freely the operating condition (for example, operating conditions, such as a setup of AE program and a setup of an archive medium) of the camera suitable for how to employ oneself, when two or more men share and use one set of an electronic camera must be set up. Therefore, although each user's operating condition can be registered with a user's proper information (ID), and it will be thought after it that the operability of an electronic camera improves if the operating condition of an electronic camera is equipped with the function automatically set as what the user suited in case the registered user uses an electronic camera again, the current commercialization of the camera equipped with such a technique is not carried out, and a proposal is not made, either.

[0004] In addition, although the technique which distinguishes the user concerned is indicated whenever it registers the user of a camera into the above-mentioned official report and a camera is used, this user's registration / distinction function is a technique about the so-called protection function of the camera owner who forbids the camera use of those other than a registrant, and is not the technique of realizing the above camera share functions.

[0005] This invention was made in view of the above, and aims at improving the operability of an electronic camera in case one set of an electronic camera is shared and used for two or more users.

[0006]

[Means for Solving the Problem] The mode setting means which carries out a change-over setup of the normal mode in which invention according to claim 1 contains photography mode, and the register mode which registers the operating condition of the electronic camera for every user, In 1st input means to input the operating condition of an electronic camera, 2nd input means to input the user proper information for specifying a user, and said register mode In a storage means to match the operating condition inputted by said 1st input means with said user proper information that it was inputted, and to memorize it if user proper information is inputted by said 2nd input means, and said normal mode If user proper information is inputted by said 2nd input means, when said operating condition is remembered to be a judgment means to judge whether the operating condition corresponding to the user proper information is memorized by said storage means by said storage means, It is characterized by having a setting means to set an electronic camera as the operating condition.

[0007] If according to this invention the user proper information for specifying the operating condition and user of an electronic camera with the 1st and 2nd input means is inputted when register mode is set up by the mode setting means, it will match with that user proper information with a storage means, and the operating condition of an electronic camera will be memorized. And if user proper information is inputted by said 2nd input means when the normal mode is set up by the mode setting means, when it is judged whether the operating condition corresponding to the user proper information is memorized by said storage means with the judgment means and said operating condition is memorized by said storage means, an electronic camera is set as the operating condition by the setting means.

[0008] In that case, when it enables it to memorize the photography conditions at the time of photoing a photographic subject with an electronic camera for said storage

means as an operating condition and user proper information is inputted by said 2nd input means in said photography mode, an electronic camera should just be set as the photography conditions corresponding to the user proper information by said setting means (claim 2).

[0009] Moreover, what is necessary is just to make it also include the conditions about the archive destination of the object which records a photography image further as an operating condition (claim 3).

[0010] It has further the display means which indicates the photography image by playback. Furthermore, said mode setting means While a change-over setup to the playback mode which displays a photography image on said display means is attained, said operating condition If it is the conditions about the playback display of the photography image to said display means and user proper information is inputted by said 2nd input means in said playback mode According to the conditions about the playback display corresponding to the user proper information, a photography image should just be displayed on said display means (claim 4).

[0011] What is necessary is on the other hand, just to consider as the biological information of at least 1 of a user's palm print, a retina, and a voiceprint as user proper information (claim 5).

[0012] In this case, what is necessary is just to consider as the detection sensor which detects that user's biological information, when a user will be in a predetermined busy condition to an electronic camera about said 2nd input means (claim 6). For example, it is good to form the palm-print detection sensor which detects the user's palm print when a user grasps an electronic camera in adopting palm print as a user's biological information, and when adopting a retina as a user's biological information, and a user does an eyepiece to a finder, it is good to form the retina detection sensor which detects the user's retina.

[0013]

[Embodiment of the Invention] When one set of an electronic camera is shared and used for two or more users, the electronic camera concerning this invention has the description in the place constituted so that an electronic camera may operate as an electronic camera only for the users concerned, in case each user uses the electronic camera.

[0014] The electronic camera concerning this invention namely, besides the photography mode as the normal mode, or a playback mode the photography conditions (the 1st operation gestalt -- a white balance --) which suited how to employ oneself Have the register mode for registering image size, compressibility, and

profile amendment with the user proper information (the 1st operation gestalt a user's palm-print information) for specifying a user, and it sets in photography mode. When the once registered user proper information is detected, it enables it to exclude the activity which resets up the photography conditions which suited themselves whenever the user changed because an electronic camera considers as the configuration automatically set as the photography conditions which the user registered.

[0015] Moreover, memorize the photography image photoed in photography mode to the storage regions (a user's folder created by the storage region of a memory card with the 1st operation gestalt) of a user proper, and it is set to a playback mode. When the proper information of the user who once registered is detected By setting it as the user's photography image, the image of the object displayed on the display of an electronic camera Its own photography image can be admired or it enables it to exclude the activity which discovers its own photography image out of all the photography images photoed with the electronic camera in a user performing a certain processing to the image data etc. Hereafter, these configurations etc. are explained.

[0016] The 1st operation gestalt of the digital camera which applied this invention is explained.

[0017] The digital camera concerning the 1st operation gestalt, has the radio function which accesses the Internet, and transmits and receives photography image data between servers, and can record a photography image on the server on the Internet while it records a photography image on record media, such as a memory card.

[0018] Drawing 1 is the front view of a digital camera, and drawing 2 is the rear view of this digital camera.

[0019] As shown in drawing 1 and drawing 2, the digital camera 1 equips body section of camera 1a with the lens unit 2, a shutter release 3, the optical finder 4, a flash plate 5, LCD (Liquid Crystal Display)6, the function switch 7, the power button 8, the card slot 9, and the mode setting switch 10.

[0020] The lens unit 2 is arranged in the front right-hand side of body section of camera 1a, and incorporates the light figure of a photographic subject. The lens unit 2 consists of a zoom lens, and performs accommodation of a zoom or a focus by the drive of a motor 50 (refer to drawing 9).

[0021] A shutter release 3 is a photography preliminary treatment (while mainly detecting photographic subject brightness and setting up an exposure control value), when the half-push [it sees from a tooth back, is arranged in the top-face right end section of body section of camera 1a (refer to drawing 2) and] in photography mode.

If all push [the processing which detects photographic subject distance and performs the focus of the lens unit 2 / perform and], photography processing will be performed with the set-up exposure control value.

[0022] The optical finder 4 is arranged in the tooth-back left-hand side upper part of body section of camera 1a, and is for a photography person to check a photography field angle by looking.

[0023] The flash plate 5 is arranged in the front central upper part of body section of camera 1a, and when a photographic subject is dark, it irradiates the illumination light.

[0024] LCD6 is arranged in the tooth-back abbreviation center section of body section of camera 1a, and performs the monitor display of a photography image, the playback display of a record image, etc.

[0025] The function switch 7 is arranged by the method of right-hand side of LCD6, and is a switch for performing registration of the drive of the wide direction of the lens unit 2, or the tele direction, the photography conditions in register mode, etc.

[0026] A power button 8 is the tooth-back upper part of body section of camera 1a, and is arranged in the left-hand side of a function switch 7, and whenever it presses, ON/OFF of a main power supply switches by turns.

[0027] A card slot 9 is seen from a tooth back, and is arranged by the right lateral of a digital camera 1, and this card slot 9 is equipped with a memory card 11.

[0028] The mode setting switch 10 is arranged in the tooth-back upper part of body section of camera 1a, and consists of a slide switch of 3 contact types slid up and down. If the mode setting switch 10 is set to the location of A, a digital camera 1 in the photography mode which photos an image If it sets to the location of B, while being set as the playback mode which indicates by playback the photography image recorded on the server 24 (refer to drawing 8) on a memory card 11 or the Internet at LCD6 If it sets to the location of C, it will be set as the register mode for registering photography conditions etc. with a user's palm-print information which is the description of this operation gestalt.

[0029] The digital camera 1 is constituted in photography mode possible [a manual setup of a white balance, image size, compressibility, and each photography conditions including profile amendment (sharpness)]. That is, since the setting screen which has two or more alternative prepared beforehand is displayed on LCD6 for every photography conditions, desired alternative is chosen using a function switch 7 out of two or more alternative of this setting screen. Drawing 3 is drawing in which in the setting screen of a white balance, and drawing 4 the setting screen of image size and drawing 5 show the setting screen of image quality (compressibility), and drawing 6

shows the setting screen of profile amendment (sharpness).

[0030] As shown in drawing 3 , the white balance is made selectable out of four kinds of white balances, "regulating automatically", "photography on the outdoors", "photography under a fluorescent lamp", and "photography under an electric bulb and an incandescent lamp", and a desired white balance is chosen by actuation of the vertical carbon buttons 7a and 7b of a function switch 7.

[0031] As shown in drawing 4 , image size is made selectable out of three kinds of image sizes, "2400x1800 (pixel)", "1280x960 (pixel)", and "640x480 (pixel)", and desired image size is chosen by actuation of the vertical carbon buttons 7a and 7b of a function switch 7.

[0032] As shown in drawing 5 , image quality (compressibility) is made selectable out of three kinds of image quality, "FINE", "NORMAL", and "BASIC", and desired image quality (compressibility) is chosen by actuation of the vertical carbon buttons 7a and 7b of a function switch 7.

[0033] As shown in drawing 6 , profile amendment (sharpness) is made selectable out of three kinds of profile amendments, "profile emphasis", usual ["usual"], and "profile software", and desired profile amendment is chosen by actuation of the vertical carbon buttons 7a and 7b of a function switch 7.

[0034] So that the conditions which suited how to employ oneself for every user about the four above-mentioned kinds of photography conditions (a white balance, image size, image quality, and profile amendment) in register mode in this operation gestalt can be registered now and it may mention later After setting up photography conditions in photography mode in the condition of having pressed against the palm-print detection sensor 13 near the digitus-minimus root of a palm, by switching to register mode with the mode setting switch 10, a user's palm-print information and the photography conditions set up by the user match, and are registered.

[0035] Moreover, as mentioned above, record of a photography image of a digital camera 1 is enabled at a memory card 11 and the server on the Internet, and it can be registered now about the information on these archive destinations besides the above-mentioned photography conditions.

[0036] As shown in drawing 7 , when a digital camera 1 records photography image data on a memory card 11, creation of the folders F1 and F2 and ... which contain two or more photography image data collectively of it is enabled. Therefore, when add the name of a folder with which each users differ, respectively, the folder of a user proper is created, respectively, each folder functions as a storage region of a user proper by recording a photography image on one's folder and it is set as a playback mode, the

user's photography image is displayed on LCD6 by accessing the folder corresponding to a user. A digital camera 1 can register the name of this folder now with the above-mentioned palm-print information and photography conditions. In addition, in this operation gestalt, when a memory card 11 is accessed for the first time, the photography image which the user who creates the folder Fx for non-registrants beforehand automatically, and has not registered it photoed is recorded in this folder Fx.

[0037] Moreover, a digital camera 1 is equipped with an antenna 12 (refer to drawing 1), and has the function to perform radio between the servers on the Internet. Namely, as shown in drawing 8 , a digital camera 1 is connected with a base station 20 by radio, while connecting with the ISDN network 21, a server 24 is connected with LAN (Local Area Network)23, and, as for the base station 20, the access point 22 which offers connection with the ISDN network 21 is assigned to LAN23. Of this, a communication network is formed between a digital camera 1 and a server 24. Therefore, when each server 24 functions as a storage region of a user proper and is set as a playback mode because each user transmits and records a photography image on a server 24 different, respectively, the user's photography image is displayed on LCD6 by capturing a photography image from the server 24 corresponding to a user. A digital camera 1 can register the address of the above-mentioned server now with the above-mentioned palm-print information and photography conditions. In addition, the Internet is accessed and an access point 22 is good also as the server on the Internet and a communication link being possible.

[0038] Registration of the above-mentioned folder name and a server address is enabled by register mode like the above-mentioned palm-print information and photography conditions, and if set as register mode, as shown in drawing 9 , the alphabetic character input screen 30 for inputting a folder name and a server address will be displayed on LCD6. Once each alphabetic character etc. is chosen by the function switch 7 in the alphabetic character input screen 30 and a desired folder name or a desired server address is registered, the photography image of the user concerned will be automatically recorded on the inside of the folder, or a server 24. In addition, an enumeration indication of the selected alphabetic character etc. is given at selected character display 30a of the alphabetic character input screen 30.

[0039] In a playback mode, when the user of a digital camera 1 is an existing registrant, the folder or server 24 corresponding to the user is accessed, and a playback indication of the photography image (the user's photography image) is given at LCD6. In addition, in reproducing the photography image recorded on the server 24 to LCD6,

a digital camera 1 accesses the Internet automatically.

[0040] A digital camera 1 is equipped with the palm-print detection sensor 13 which detects palm print as an example of the information for specifying a user so that it may attain the purpose of this invention. The palm-print detection sensor 13 consists of a pressure-sensitive-type line sensor, is seen from a transverse plane, and is built in the left end section (grip section 1b) of body section of camera 1a. If grip section 1b is grasped with the right hand so that a user may hold a camera, press [/ near the right-hand digitus-minimus root] will be detected by the palm-print detection sensor 13. The palm-print detection sensor 13 can detect the pressure near the right-hand digitus-minimus root. Since the pressure of the wrinkle part near the right-hand digitus-minimus root becomes smaller than the pressure of other parts, from the palm-print detection sensor 13, the pressure wave form corresponding to the configuration of the palm print near the right-hand digitus-minimus root is detected. Therefore, palm print are detected by investigating the output wave of the palm-print detection sensor 13 so that it may mention later.

[0041] Drawing 10 is the block block diagram showing the system of a digital camera 1.

[0042] CCD51 is the image sensor which consists of a CCD color area sensor, carries out photo electric conversion of the light figure of the photographic subject in which image formation was carried out by the lens unit 2 to the picture signal of the color component of R (red), G (green), and B (blue), and outputs it to it.

[0043] The timing control circuit 52 generates the clock CLK2 for A/D conversion based on a reference clock CLK0, and outputs this clock CLK2 to the A/D-conversion section 56 while it generates a clock CLK1 based on the reference clock CLK0 transmitted from a control section 62 and outputs this clock CLK1 to a timing generator 53.

[0044] A timing generator 53 generates the drive control signal of CCD51 based on the clock CLK1 transmitted from the timing control circuit 52. Moreover, clock signals, such as read-out control signals (a Horizontal Synchronizing signal, a Vertical Synchronizing signal, transfer signal, etc.) of the timing signal of integral initiation / termination (exposure initiation / termination) and the light-receiving signal of each pixel, are generated, for example, and it outputs to CCD51.

[0045] The signal-processing section 54 performs level adjustment of a picture signal while reducing the noise of the picture signal (analog signal) outputted from CCD51.

[0046] The floor line control circuit 55 controls existence, the amount of luminescence, luminescence timing, etc. of luminescence of a flash plate 5 based on the control signal of a control section 62, and controls the amount of luminescence of

a flash plate 5 based on the luminescence stop signal inputted from the modulated light circuit of ****.

[0047] The A/D-conversion section 56 changes into a 10-bit digital signal each pixel signal (analog signal) of image data inputted from the signal-processing section 54 based on the clock CLK2 transmitted from the timing control circuit 52.

[0048] The image-processing section 57 performs the black level amendment which amends the black level of the pixel signal (henceforth pixel data) in which A/D conversion was carried out by the A/D-conversion section 56 to the black level of criteria, the white balance which performs the level conversion of the pixel data of R (red), G (green), and B (blue) each color component, gamma amendment which amends the gamma characteristics of pixel data, profile amendment which amends the profile of a photographic subject. About the white balance, as mentioned above, four kinds of processings are set up selectable, and the image-processing section 57 performs a white balance by the selected processing, when a manual setup is done by the user. Moreover, about profile amendment, as mentioned above, three kinds of processings are set up selectable, and the image-processing section 57 performs profile amendment by the selected processing, when a manual setup is done by the user.

[0049] An image memory 58 is memory which stores temporarily the pixel data outputted from the image-processing section 57, and stores temporarily the image data incorporated from the memory card 11 or the server 24 in a playback mode in photography mode. This image memory 58 has the capacity which memorizes the pixel data of each color component in one frame, and memorizes each pixel data of each color component in the pixel location of the image memory of a corresponding color component.

[0050] An image memory 59 is the buffer memory of the image data by which it is indicated by playback at LCD6, and has the storage capacity of the image data corresponding to the number of pixels of LCD6.
 [0051] In a photography standby condition, after predetermined signal processing is performed by the A/D-conversion section 56 and the image-processing section 57, while each pixel data of the image picturized by every 1/30 (second) by CCD51 is recorded on an image memory 58, it is transmitted to an image memory 59 through a control section 62, and it is indicated by the live view at LCD6. Thereby, a photography person can check a photographic subject image by looking with the image displayed on LCD6. Moreover, in a playback mode, after signal processing predetermined by the control section 62 is performed to the image data by which the image data incorporated from the memory card 11 or the

server 24 was recorded on the image memory 58, and was recorded on this image memory 58, it is transmitted to an image memory 59 and indicated by playback at LCD6.

[0052] Card I/F60 is an interface for performing writing of the image data to a memory card 11, and read-out of image data.

[0053] A control unit 61 consists of mode setting switch 10 grade which sets up the modes in which release actuation of a shutter release 3 is detected, such as a switch and photography mode.

[0054] A control section 62 consists of a microcomputer, controls organically the drive of each part material in body section of camera 1a mentioned above, carries out generalization control of the photography actuation of a digital camera 1, and is equipped with RAM620 as an object for the work pieces of a microcomputer, and the flash memory 621 on which the program of the various functions with which a digital camera 1 is equipped etc. was recorded.

[0055] Moreover, a control section 62 has the picture compression (compressed image is hereafter called JPEG image) section 622 which compresses the image data incorporated after photography directions in the image memory 58 with a JPEG (Joint Photographic Coding Experts Group) method, and the image sizing section 623 which sets up the number of pixels of a photography image. About image quality (compressibility), as mentioned above, three kinds of compressibility is set up selectable, and the picture compression section 622 compresses an image with the selected compressibility, when a manual setup is done by the user. Moreover, about image size, as mentioned above, three kinds of compressibility is set up selectable, and the image sizing section 623 is set as the selected image size, when a manual setup is done by the user.

[0056] Furthermore, a control section 62 is equipped with the palm-print pattern detecting element 624, photography condition storage section 620a, the user judging section 625, the image pick-up control section 626, the record control section 627, the playback control section 628, and the communications control section 629 that the purpose of this invention should be attained.

[0057] As the palm-print pattern detecting element 624 incorporates the pressure information outputted from the palm-print detection sensor 13, for example, shows it to drawing 11 (the axis of ordinate is set as the magnitude of an axis of abscissa and a pressure for the phase) at the time of a setup in each mode, the palm-print pattern near a user's right-hand digitus-minimus root (for example, part shown by the arrow head A) is detected. The hollow part shown in an arrow head B shows, the small part,

i.e., the wrinkle part, of a pressure.

[0058] Photography condition storage section 620a memorizes the photography conditions and folder name or server address set up by the user, and the palm-print pattern information detected by the palm-print pattern detecting element 624 in a table format in register mode.

[0059] The user judging section 625 judges whether whether the palm-print pattern detected by the palm-print pattern detecting element 624 being compared with each palm-print pattern registered into photography condition storage section 620a, and it being in agreement and a user are existing registrants, and when a user is an existing registrant, it specifies a user.

[0060] Drawing 12 is the explanatory view of the judgment approach. In addition, in this drawing 12 , the palm-print pattern (henceforth the detection pattern P1) with which the dotted line was detected in the palm-print pattern (henceforth the registration pattern Pt) with which the continuous line is already registered is shown.

[0061] If a user's palm-print pattern should be detected as a detection pattern P1 as shown in drawing 12 (a), the correlation value of the detection pattern P1 to the registration pattern Pt will be first calculated in this condition. And predetermined shifts the detection pattern P1 a pitch every, and a correlation value is calculated for the shift of every until total of a shift amount serves as the specified quantity set up beforehand, as shown in (b) and (c).

[0062] Drawing 13 is an example of the graph of the correlation value calculated in each shift position of the detection pattern P1.

[0063] If a correlation value calculates in each shift position as shown in drawing 13 , the threshold Ta about the maximum correlation value Tmax (correlation value shown by the arrow head C in drawing 13) and the correlation value set up beforehand is compared, when the maximum correlation value Tmax is beyond the threshold Ta, the detection pattern P1 will consider as the registration pattern Pt and a match, and a user will judge with his being a user with the registration pattern Pt for [this] a comparison. The user to whom the detection pattern P1 shall not be in agreement with the registration pattern Pt, and, on the other hand, has the detection pattern P1 concerned when the maximum correlation value Tmax is under the threshold Ta judges with his not being a person with the registration pattern Pt for [this] a comparison. Therefore, drawing 13 is an example the detection pattern P1 and whose registration pattern Pt do not correspond. And a user is specified by performing this judgment about all the registration patterns registered into photography condition storage section 620a.

[0064] When the registration pattern Pt which is in agreement with the detection pattern P1 exists by the user judging section 625, the image pick-up control section 626 The photography conditions corresponding to the registration pattern Pt are read from photography condition storage section 620a. While setting a digital camera 1 as the photography condition, when the registration pattern Pt which is in agreement with the detection pattern P1 does not exist, a digital camera 1 is set as the initial condition beforehand set up about each photography conditions.

[0065] The record control section 627 arranges image data to the server 24 on the memory card 11 with which the digital camera 1 was equipped, or the Internet serially, records it on it, and records the thumbnail image and JPEG image of image data which were captured after photography directions in the image memory 58 with index information, such as a coma number about a photography image, for every coma.

[0066] In that case, when both the server corresponding to a user and the folder are registered, photography image data is recorded on the server 24 and folder and either the server 24 and the folder are registered, photography image data is recorded on the archive destination registered, and when registering with neither the server 24 nor the folder, photography image data is recorded on the folder Fx for non-registrants.

[0067] When the playback control section 628 is in agreement with the registration pattern Pt with which the detection pattern P1 is registered into photography condition storage section 620a in a playback mode (he is the registrant to whom a user has the registration pattern Pt), The folder or server 24 corresponding to the registration pattern Pt is accessed. While displaying on LCD6 the photography image currently recorded on the archive destination, when the detection pattern P1 is not in agreement with the registration pattern Pt (a user is not a registrant), the folder Fx for the non-registrants of a memory card 11 is accessed, and the photography image is displayed on LCD6.

[0068] The communications control section 629 controls the communications processing of photography image data while performing line connection processing with the server 24 which is a transceiver partner. An access point 22 is telephoned automatically, the communication network of a digital camera 1 and a server 24 is formed, and through this communication network, in photography mode, the communications control section 629 accesses a server 24, transmits photography image data, it accesses a server 24 and incorporates photography image data by the playback mode. In addition, the server 24 which received photography image data stores the photography image data in image storing section 24a (refer to drawing 8).

[0069] Registration processing concerning this invention is performed according to

the flow chart of drawing 14 .

[0070] If switched to the back register mode by which a manual setup of the photography conditions was carried out in photography mode, the judgment with the detection pattern P1 in agreement with the registration pattern Pt will be performed (step ** 1). the detection pattern P1 -- the registration pattern Pt -- being in agreement (it being YES at step **2) -- the photography conditions registered are changed into the present photography conditions (photography conditions set up just before being switched to register mode) (step ** 3), and the alphabetic character input screen of drawing 9 is displayed (step ** 4). a server address or a folder name inputs in this alphabetic character input screen -- having (step ** 5) -- the set-up photography conditions and the inputted server address, or a folder name matches with the changed photography conditions, and is registered (step ** 6).

[0071] On the other hand, when the detection pattern P1 is in agreement with neither of the registration patterns Pt (it is NO at step **2), the alphabetic character input screen of drawing 9 is displayed (step ** 7). a server address or a folder name inputs in this alphabetic character input screen -- having (step ** 8) -- the set-up photography conditions and the inputted server address, or a folder name is registered in a table format with the detected palm-print pattern information (step ** 9).

[0072] Photography conditioning processing concerning this invention is performed according to the flow chart of drawing 15 .

[0073] Selection of photography mode performs the judgment with the detection pattern P1 in agreement with the registration pattern Pt (step ** 11). and the detection pattern P1 -- the registration pattern Pt -- being in agreement (it being YES at step **12) -- photography conditions set it as the photography conditions corresponding to the registrant -- having (step ** 13) -- when having registered the server address (step ** 14), it connects with a server 24 possible [a communication link] (step ** 15). on the other hand -- the detection pattern P1 -- the registration pattern Pt -- not being in agreement (it being NO at step **12) -- photography conditions are set as the initial condition set up beforehand (step ** 16). In addition, connecting possible [a server 24 and a communication link] before release, when the server address is registered is based on the following reason. That is, since the image memory 58 has only the memory capacity for one frame, it cannot store temporarily the photography image data for a multiple frame at coincidence. Therefore, the following frame cannot be photoed, if it does not transmit image data to a server 24 in detail for every frame in recording image data on a server 24. Therefore, it is because there is a possibility of only time amount until it transmits the image data which

photography of the following frame establishes connection and is recording on the image memory 58 temporarily to a server 24 being overdue, and missing a moment for a good picture when connection of a server 24 and a communication line is established after release when establishment of a communication line etc. takes time amount.

[0074] all push [a shutter release 3] -- having (step ** 17) -- after a photographic subject light figure is picturized (step ** 18) and predetermined image pick-up processing is performed (step ** 19), a photography image is memorized by the target in an image memory 58 temporarily (step ** 20). and when the digital camera 1 is connected with the server 24 possible [a communication link] (it is YES at step **21) The above-mentioned photography image is recorded on a user's server 24 and folder corresponding to a palm-print pattern (step ** 22). When it is what the user has registered in the time (it is NO at step **21) of not connecting with the server 24 (it is YES at step **23), the above-mentioned photography image is recorded on the folder corresponding to a user's palm-print pattern (step ** 24). Moreover, when a user is not a registrant (it is NO at step **23), a photography image is recorded on the folder Fx for non-registrants in a memory card 11 (step ** 25).

[0075] Regeneration concerning this invention is performed according to the flow chart of drawing 16 .

[0076] Selection of a playback mode performs the judgment with the detection pattern P1 in agreement with the registration pattern Pt (step ** 31). and the detection pattern P1 -- the registration pattern Pt -- being in agreement (step ** 32) -- it is judged whether the server address is registered to the detection pattern P1 (step ** 33). It connects with a server 24 possible [a communication link] (step ** 34). a server address is registered -- **** (it is YES at step **33) -- On the other hand, when [at which the image currently recorded on the server 24 is displayed on LCD6 (step ** 35)] the server address is not registered (it is NO at step **33) The photography image in the folder corresponding to the above-mentioned detection pattern P1 of a memory card 11 is displayed on LCD6 (step ** 36).

[0077] Moreover, when the detection pattern P1 is not in agreement with the registration pattern Pt in processing of step **32 (it is NO at step **32), the photography image of the folder Fx for the non-registrants of a memory card 11 is displayed on LCD6 (step ** 37).

[0078] Judgment processing of step **1 of drawing 14 - drawing 16 , step **11, and step **31 is performed according to the flow chart of drawing 17 . In addition, it shall judge whether this judgment processing is in agreement with the detection pattern P1

according to an individual about two or more registration patterns Pt, and shall judge in order of registration with this operation gestalt as sequence of performing that judgment.

[0079] First, it is set as a user's registration pattern Pt registered as a registration pattern for a judgment at the beginning of No. 1 (step ** 41), and the registration pattern information is read (step ** 42). And the detection pattern P1 is not shifted (step ** 43), but after it compares the detection pattern P1 with the above-mentioned registration pattern Pt and the correlation value of the detection pattern P1 to the registration pattern Pt calculates (step ** 44), only a pitch predetermined in the detection pattern P1 is shifted (step ** 45). And hereafter, if it is judged whether total of a shift amount is over the predetermined value (step ** 46) and total of a shift amount is not over the predetermined value (it is NO at step **46), processing of step **44 and step **45 is repeatedly performed until total of a shift amount exceeds the above-mentioned predetermined value.

[0080] and total of a shift amount -- the above-mentioned predetermined value -- exceeding (it being YES at step **46) -- It is judged whether the greatest correlation value is larger than the threshold set up beforehand among each calculated correlation value (step ** 47). When the maximum correlation value is beyond the above-mentioned threshold (it is YES at step **47) On the other hand, when [whose maximum correlation value is under the above-mentioned threshold] judged with the detection pattern P1 being the registration pattern Pt for [this] a comparison (it is NO at step **47) (step ** 48), it is judged with that detection pattern not being a registration pattern for [above-mentioned] a comparison (step ** 49).

[0081] and -- all the registration patterns registered -- judgment processing -- ending (it being YES at step **50) -- While carrying out a return to processing of step **2 of drawing 14 - drawing 16 , step **12, and step **32, when there is a registration pattern which omits judgment processing (it is NO at step **51) The registration pattern for a comparison is set as the registration pattern registered into the degree (step ** 51), and the above-mentioned judgment processing is performed in order of registration about a non-judged registration pattern until a judgment is completed about all registration patterns.

[0082] Thus, memorize the photography conditions and photography image data storage field (the server 24 and folder) which suited how to employ a user in register mode with a user's palm-print pattern information, and it sets in photography mode. When the palm-print information of the user who once registered is detected When the palm-print information of the user who set the digital camera 1 as the

photography conditions which the user registered automatically, and once registered it into them in the playback mode is detected Since the image which the user photoed was displayed on LCD6 of a digital camera 1, the activity which resets up the photography conditions which suited themselves whenever the user changed, and the activity which discovers its own photography image out of all the photography images photoed with the digital camera 1 can be excluded. Therefore, after the above-mentioned registration, since it operates as a digital camera only for users, the operability of an electronic camera in case one set of a digital camera is shared and used for two or more users can be improved.

[0083] In addition, the following deformation gestalten can be used for this invention.

[0084] (1) With the 1st operation gestalt, when the user grasped the digital camera and the palm-print detection sensor 13 was touched near the right-hand digitus-minimus root, it was made to perform automatic setting of photography conditions etc., but it may be made to carry out not only this but when the half-push. [a shutter release 3] for example, in the state of contact.

[0085] (2) Although it has the function which creates the folder of a user proper and a user's photography image was recorded on this folder in the 1st operation gestalt in order to make a user's photography image applicable to a display in a playback mode It is good also as a configuration which is equipped with the function which adds a file name to photography image data in register mode, extracts the photography image with which the file name corresponding to a user is added at the time of a playback mode, and indicates by playback at LCD6.

[0086] (3) If two or more palm-print detection sensors 13 which detect palm print are formed, a user's discernment precision can be improved.

[0087] (4) With the 1st operation gestalt, as biological information for specifying a user, although a user's palm print were detected, not only this but a user's retina may be adopted.

[0088] Drawing 18 and drawing 19 are the schematic diagrams showing the configuration of the digital camera at the time of adopting a retina as biological information for specifying a user.

[0089] As shown in drawing 18 , in order that a digital camera 1 may detect the retina of a user's eyeball E The mirror 14 which carries out the spectrum of the incident light from field 14a in the direction of CCD51 and a mirror 15, and carries out total reflection of the incident light from field 14b is built in. By the drive of the mechanical component of **** It is constituted so that the 1st posture (posture upward slanting to the right) which shows a mirror 14 in drawing 18 , and the 2nd posture (the lower

right is the posture of **) shown in drawing 19 R> 9 may be made to carry out posture change. Moreover, the light sources 15, such as LED, are arranged near the finder 4, and Eyeball E is irradiated when an eyepiece is carried out to a finder 4.

[0090] And when photoing a photographic subject, while driving a mirror 14 into the 1st posture (posture upward slanting to the right) and leading a photographic subject light figure to CCD51, it reflects towards a mirror 15 and leads to Eyeball E through the finder optical system 16. Thereby, while a photographic subject is checked by looking, a photographic subject light figure is picturized by all push of a shutter release 3.

[0091] On the other hand, while making the light source 15 turn on and irradiating a user's eyeball E when detecting a retina, and an eyepiece is carried out to a finder 4, the lower right drives a mirror 14 into the posture of **, and the reflected light from Eyeball E is led to CCD51. The output from this CCD51 is detected as retina data, and like the operation gestalt of the above 1st, registration processing is performed by register mode about this detected retina data, and it may be made to perform photography conditioning processing and regeneration by photography mode or the playback mode.

[0092] (5) Moreover, a voiceprint may be adopted as biological information for specifying a user.

[0093] Drawing 20 is the schematic diagram showing the configuration of the digital camera at the time of adopting a voiceprint as biological information for specifying a user.

[0094] The tooth back of a digital camera 1 is equipped with the sound-collecting microphone 17, and you may make it register a user's voiceprint data obtained with this sound-collecting microphone 17 as a user's proper information, as shown in drawing 20 . In this case, if a user utters by photography mode or the playback mode, when voiceprint data are detected and that voiceprint data is registered, it is good to be set as the photography conditions corresponding to the above-mentioned voiceprint data in photography mode, and to display the photography image corresponding to the above-mentioned voiceprint data on LCD6 by the playback mode.

[0095] (6) If it is the biological information which a fingerprint is sufficient as and can specify not only these but a user further besides the above-mentioned palm print, a retina, and a voiceprint as biological information for specifying a user, it is good anything.

[0096] (7) Moreover, a password and an ID number may be adopted as a user's proper

information. That is, when registration of the above-mentioned password etc. is enabled in register mode at the above-mentioned alphabetic character input screen 30 and the password of a user proper etc. is entered by photography mode or the playback mode, in photography mode, it is set as the photography conditions corresponding to the password etc., and it is good in a playback mode to display the photography image corresponding to the password etc. on LCD6.

[0097] (8) The special effect which processes subtractive color, a sepia color, monochrome, NEGAKARA, etc. to a photography image else [, such as photography conditions mentioned above in register mode as what can be registered], the protection set up so that ON/OFF of a digital zoom or their own photography image may not be eliminated accidentally, a setup of the discharge, etc. may be added.

[0098]

[Effect of the Invention] When register mode is set up by the mode setting means according to this invention If the user proper information for specifying the operating condition and user of an electronic camera with the 1st and 2nd input means is inputted, while matching with the user proper information with a storage means and memorizing the operating condition of an electronic camera If user proper information is inputted from said 2nd input means when the normal mode is set up by the mode setting means When it is judged whether the operating condition corresponding to the user proper information is memorized by said storage means with the judgment means and said operating condition is memorized by said storage means Since the electronic camera was set as the operating condition by the setting means, the operability of an electronic camera in case one set of an electronic camera is shared and used for two or more users can be improved.

[0099] Moreover, if according to this invention it enables it to memorize the photography conditions at the time of photoing a photographic subject with an electronic camera for said storage means as an operating condition and user proper information is inputted by said 2nd input means in said photography mode Since the electronic camera was set as the photography conditions corresponding to the user proper information by said setting means, the activity which resets up the photography conditions which suited themselves whenever the user changed can be excluded.

[0100] Moreover, since it enabled it to also memorize the conditions about the archive destination of the object which records a photography image for a storage means according to this invention, a photography image can be classified and recorded for every user.

[0101] According to this invention, it has further the display means which indicates the photography image by playback. Moreover, said mode setting means While a change-over setup to the playback mode which displays a photography image on said display means is attained, said operating condition If it is the conditions about the playback display of the photography image to said display means and user proper information is inputted by said 2nd input means in said playback mode Since the photography image was displayed on said display means according to the conditions about the playback display corresponding to the user proper information Its own photography image can be admired or, in a user performing a certain processing to the image data etc., the activity which discovers its own photography image can be excluded out of all the photography images photoed with the electronic camera.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the front view of the digital camera concerning 1 operation gestalt of this invention.

[Drawing 2] Similarly it is the rear view of a digital camera.

[Drawing 3] It is drawing showing an example of the selection screen of a white balance.

[Drawing 4] It is drawing showing an example of the selection screen of image size.

[Drawing 5] It is drawing showing an example of the selection screen of image quality (compressibility).

[Drawing 6] It is drawing showing an example of the selection screen of profile amendment (sharpness).

[Drawing 7] It is the explanatory view showing the record format of the image data to a memory card.

[Drawing 8] It is drawing showing the communication system of a digital camera and the server on the Internet.

[Drawing 9] It is drawing showing an alphabetic character input screen.

[Drawing 10] It is the block block diagram showing the system of a digital camera.

[Drawing 11] It is drawing showing an example of the detected palm-print pattern.

[Drawing 12] It is the explanatory view of the judgment approach of judging whether you being a registrant.

[Drawing 13] It is drawing showing an example of the graph of the correlation value of

a detection pattern to a registration pattern calculated in each shift position of a detection pattern.

[Drawing 14] It is the flow chart of the registration processing concerning this invention.

[Drawing 15] It is the flow chart of the photography conditioning processing concerning this invention.

[Drawing 16] It is the flow chart of regeneration concerning this invention.

[Drawing 17] It is the flow chart of judgment processing of step **1 of drawing 14 - drawing 16 , step **11, and step **31.

[Drawing 18] It is the block diagram of the digital camera concerning other operation gestalten of this invention.

[Drawing 19] It is the block diagram of the digital camera concerning other operation gestalten of this invention.

[Drawing 20] It is the rear view of the digital camera concerning other operation gestalten of this invention.

[Description of Notations]

3 Shutter Release

6 LCD

7 Function Switch

10 Mode Setting Switch

12 Antenna

13 Palm-Print Detection Sensor

14 Mirror

17 Sound-collecting Microphone

24 Server

30 Alphabetic Character Input Screen

620a Photography condition storage section

624 Palm-Print Pattern Detecting Element

625 User Judging Section

626 Image Pick-up Control Section

627 Record Control Section

628 Playback Control Section

629 Communications Control Section

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